L7 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 2002:450063 CAPLUS
DN 137:8659
TI Method for the preparation of a cathode for lithium ion batteries
IN Bele, Marjan; Gaberscek, Miran; Dominko, Robert; Drofenik, Jernej; Pejovnik, Stane
PA Kemijski, Institut, Slovenia
SO PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002047188	A1	20020613	WO 2001-SI30	20011112

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI SI 2000-292 A 20001128
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 2001:451316 CAPLUS
DN 135:48579
TI Anode for secondary nonaqueous battery and its manufacture
IN Tenno, Kojiro
PA Kansai Coke and Chemicals Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001167755	A2	20010622	JP 1999-347491	19991207

L7 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1995:1006716 CAPLUS
DN 124:61606
TI Lightweight zinc battery anode
IN Ferrando, William A.
PA United States Dept. of the Navy, USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English

FAN.CNT 1

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   PATENT NO.     KIND  DATE        APPLICATION NO.  DATE
   -------------- ----  --------    ---------------  --------
PI US 5468570     A     19951121    US 1995-379380   19950126
   US 379380      A0    19960315
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L7 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1994:195962 CAPLUS
DN 120:195962
TI Lightweight zinc battery anode
IN Ferrando, William A.
PA United States Dept. of the Navy, USA
SO U.S., 9 pp.
   CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

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   PATENT NO.     KIND  DATE        APPLICATION NO.  DATE
   -------------- ----  --------    ---------------  --------
PI US 5283138     A     19940201    US 1993-97181    19930727
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L7 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1991:27261 CAPLUS
DN 114:27261
TI Zinc anodes for alkaline batteries
IN Bogauchi, Takehito; Yamane, Mitsuo; Fujii, Kenkichi; Yufu, Hiroshi
PA Yuasa Battery Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
   CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

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   PATENT NO.     KIND  DATE        APPLICATION NO.  DATE
   -------------- ----  --------    ---------------  --------
PI JP 02244555    A2    19900928    JP 1989-66616    19890317
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L7 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1989:537530 CAPLUS
DN 111:137530
TI Sintered cadmium anode for secondary alkaline batteries and its manufacture
IN Matsui, Kazuhiro; Terasaka, Masayuki; Awaja, Takahisa; Ito, Tsukane
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
   CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 2

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   PATENT NO.     KIND  DATE        APPLICATION NO.  DATE
   -------------- ----  --------    ---------------  --------
PI JP 01105471    A2    19890421    JP 1988-168003   19880706
   JP 2567672     B2    19961225
PRAI JP 1987-170534     19870708
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L7 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1989:223870 CAPLUS
DN 110:223870
TI Polarized electrode preparation
IN Tanahashi, Ichiro; Yoshida, Akihiko; Nishino, Atsushi
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 64002314	A2	19890106	JP 1987-158196	19870625

L7 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1982:566183 CAPLUS
DN 97:166183
TI Activated carbon cathodes
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Tokkyo Koho, 2 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57025952	B4	19820601	JP 1974-147466	19741220

L7 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1982:202575 CAPLUS
DN 96:202575
TI Gas-diffusion electrodes
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57025673	A2	19820210	JP 1980-100401	19800721

L7 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1982:184264 CAPLUS
DN 96:184264
TI Cathodes for air batteries
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Tokkyo Koho, 2 pp.
CODEN: JAXXAD
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56054663	B4	19811226	JP 1976-120519	19761006

L7 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2002 ACS
AN 1982:55404 CAPLUS
DN 96:55404
TI Gas-diffusion electrodes
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Tokkyo Koho, 2 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56041157	B4	19810926	JP 1974-147342	19741219

L7 ANSWER 12 OF 37 WPIDS (C) 2002 THOMSON DERWENT
AN 2001-550028 [61] WPIDS
DNN N2001-408590 DNC C2001-163703
TI Active electrode composition for alkaline electrochemical cell, contains binder consisting of monosaccharide, disaccharide, pectin or molasses.
DC L03 X16
IN ALADJOV, B; FOK, K; HOPPER, T; OVSHINSKY, S R; VENKATESAN, S
PA (OVON-N) OVONIC BATTERY CO INC
CYC 20
PI WO 2001059866 A1 20010816 (200161)* EN 15p H01M004-62 <--
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
W: CA
ADT WO 2001059866 A1 WO 2001-US2894 20010129
PRAI US 2000-501944 20000210
IC ICM H01M004-62

L7 ANSWER 13 OF 37 WPIDS (C) 2002 THOMSON DERWENT
AN 1990-338746 [45] WPIDS
TI Zinc pole for alkali accumulator for electric car - contg. pectin as binder for zinc active material NoAbstract Dwg 1/2.
DC L03 X16 X21
PA (YUAS) YUASA BATTERY CO LTD
CYC 1
PI JP 02244555 A 19900928 (199045)*
ADT JP 02244555 A JP 1989-66616 19890317
PRAI JP 1989-66616 19890317
IC H01M004-62

L7 ANSWER 14 OF 37 WPIDS (C) 2002 THOMSON DERWENT
AN 1989-051558 [07] WPIDS
TI Polarisation electrode mfr. used for electrochromic display etc. - using activated carbon powder or fibre mfd. by carbonising powder or fibre and coal tar or pitch and molasses NoAbstract Dwg 1/1.
DC L03 P81 U14 V01 X16
PA (MATU) MATSUSHITA ELEC IND CO LTD
CYC 1
PI JP 64002314 A 19890106 (198907)* 8p
ADT JP 64002314 A JP 1987-158196 19870625

PRAI JP 1987-158196 19870625
IC G02F001-17; H01G009-00; H01M004-04

L7 ANSWER 15 OF 37 WPIDS (C) 2002 THOMSON DERWENT
AN 1973-54352U [37] WPIDS
TI Activated carbon electrode - for alkaline electrolyte air cell and other fuel cells.
DC A85 L03 X16
PA (MATU) MATSUSHITA ELEC IND CO LTD
CYC 1
PI JP 48029262 B (197337)*
PRAI JP 1970-20676 19700309
IC H01M000-00

L7 ANSWER 16 OF 37 JAPIO COPYRIGHT 2002 JPO
AN 1995-192731 JAPIO
TI NEGATIVE ACTIVE MATERIAL USING GA AS MAIN COMPONENT AND SECONDARY BATTERY USING THIS ACTIVE MATERIAL
IN ONOE TAKASHI; NIITSU YASUHIKO; KITAMURA TOSHIYA; SATO FUMIHIRO
PA DOWA MINING CO LTD
PI JP 07192731 A 19950728 Heisei
AI JP 1994-44887 (JP06044887 Heisei) 19940218
PRAI JP 1993-314185 19931119
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1995
IC ICM H01M004-38

L7 ANSWER 17 OF 37 JAPIO COPYRIGHT 2002 JPO
AN 1990-244555 JAPIO
TI ZINC ELECTRODE FOR ALKALINE STORAGE BATTERY
IN BOUGAUCHI TAKEHITO; YAMANE MITSUO; FUJII KENKICHI; YUFU HIROSHI
PA YUASA BATTERY CO LTD
PI JP 02244555 A 19900928 Heisei
AI JP 1989-66616 (JP01066616 Heisei) 19890317
PRAI JP 1989-66616 19890317
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1990
IC ICM H01M004-62
ICS H01M004-24

L7 ANSWER 18 OF 37 JAPIO COPYRIGHT 2002 JPO
AN 1982-025673 JAPIO
TI MANUFACTURE OF GAS DIFFUSING ELECTRODE
IN IWAKI TSUTOMU; ISHITOBI MAMORU; ISHIKAWA TAKASHI
PA MATSUSHITA ELECTRIC IND CO LTD
PI JP 57025673 A 19820210 Showa
AI JP 1980-100401 (JP55100401 Showa) 19800721
PRAI JP 1980-100401 19800721
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1982
IC ICM H01M004-88

L7 ANSWER 19 OF 37 USPATFULL
AN 2002:208909 USPATFULL
TI Zinc/air cell
IN Wandeloski, William J., Weymouth, MA, United States

Searle, Gary M., Norfolk, MA, United States
Shepard, Vance Roger, Lancaster, MA, United States
McHugh, William T., Westwood, MA, United States
PA The Gillette Company, Boston, MA, United States (U.S. corporation)
PI US 6436156 B1 20020820
AI US 2000-578549 20000525 (9)
DT Utility
FS GRANTED
LN.CNT 921
INCL INCLM: 029/623.200
INCLS: 429/162.000; 429/209.000; 429/229.000; 429/027.000
NCL NCLM: 029/623.200
NCLS: 429/162.000; 429/209.000; 429/229.000
; 429/027.000
IC [7]
ICM: H01M006-00
EXF 429/229; 429/209; 429/162; 429/27; 029/623.2

L7 ANSWER 20 OF 37 USPATFULL
AN 2002:201796 USPATFULL
TI Electrode structural body, rechargeable battery provided with said electrode structural body, and rechargeable battery
IN Kawakami, Soichiro, Nara, JAPAN
Kobayashi, Naoya, Nara, JAPAN
Asao, Masaya, Tanabe, JAPAN
Kosuzu, Takeshi, Tanabe, JAPAN
Kimura, Hironao, Kawasaki, JAPAN
PA Canon Kabushiki Kaisha, Tokyo, JAPAN (non-U.S. corporation)
PI US 6432585 B1 20020813
AI US 1998-14408 19980128 (9)
PRAI JP 1997-13942 19970128
JP 1997-369371 19971227
DT Utility
FS GRANTED
LN.CNT 4475
INCL INCLM: 429/233.000
INCLS: 429/209.000; 429/235.000
NCL NCLM: 429/233.000
NCLS: 429/209.000; 429/235.000
IC [7]
ICM: H01M004-66
EXF 429/233; 429/209; 429/212; 429/218; 429/235

L7 ANSWER 21 OF 37 USPATFULL
AN 2002:191401 USPATFULL
TI Polymer gel electrolyte, secondary cell, and electrical double-layer capacitor
IN Yoshida, Hiroshi, Chiba-shi, JAPAN
Hata, Kimiyo, Chiba-shi, JAPAN
Maruo, Tatsuya, Chiba-shi, JAPAN
Sato, Takaya, Chiba-shi, JAPAN
PI US 2002102464 A1 20020801
AI US 2001-2171 A1 20011205 (10)

PRAI JP 2000-371277 20001206
DT Utility
FS APPLICATION
LN.CNT 2481
INCL INCLM: 429/300.000
NCL NCLM: 429/300.000
IC [7]
ICM: H01M006-18
ICS: H01M006-22
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 22 OF 37 USPATFULL
AN 2002:16770 USPATFULL
TI Polymer battery and method of manufacture
IN Sato, Takaya, Chiba-shi, JAPAN
Hata, Kimiyo, Chiba-shi, JAPAN
PI US 2002009649 A1 20020124
AI US 2001-880847 A1 20010615 (9)
PRAI JP 2000-181708 20000616
JP 2000-332226 20001031
JP 2001-123374 20010420
DT Utility
FS APPLICATION
LN.CNT 2854
INCL INCLM: 429/306.000
INCLS: 429/309.000; 429/317.000; 029/623.500
NCL NCLM: 429/306.000
NCLS: 429/309.000; 429/317.000; 029/623.500
IC [7]
ICM: H01M010-40
ICS: H01M010-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 23 OF 37 USPATFULL
AN 2001:176321 USPATFULL
TI HIGH ENERGY DENSITY VANADIUM ELECTROLYTE SOLUTIONS, METHODS OF PREPARATION THEREOF AND ALL-VANADIUM REDOX CELLS AND BATTERIES CONTAINING HIGH ENERGY VANADIUM ELECTROLYTE SOLUTIONS
IN KAZACOS, MICHAEL, SYLVANIA HEIGHTS, Australia
KAZACOS, MARIA SKYLLAS, SYLVANIA HEIGHTS, Australia
PI US 2001028977 A1 20011011
AI US 1998-945869 A1 19980224 (8)
WO 1996-AU268 19960503
None PCT 102(e) date
PRAI AU 1995-2747 19950503
AU 1995-4394 19950725
DT Utility
FS APPLICATION
LN.CNT 9569
INCL INCLM: 429/105.000
INCLS: 429/188.000; 429/205.000; 429/050.000
NCL NCLM: 429/105.000
NCLS: 429/188.000; 429/205.000; 429/050.000

IC [7]
ICM: H01M006-04
ICS: H01M010-36
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 24 OF 37 USPATFULL
AN 2001:176320 USPATFULL
TI Alkaline cell with improved separator
IN Treger, Jack, Quincy, MA, United States
Sargeant, Sean, Lagrange, GA, United States
Licata, John, Malden, MA, United States
PI US 2001028976 A1 20011011
AI US 2000-740346 A1 20001218 (9)
RLI Continuation-in-part of Ser. No. US 1999-280367, filed on 29 Mar 1999, ABANDONED
DT Utility
FS APPLICATION
LN.CNT 1606
INCL INCLM: 429/056.000
INCLS: 429/174.000; 429/254.000; 429/224.000
NCL NCLM: 429/056.000
NCLS: 429/174.000; 429/254.000; 429/224.000
IC [7]
ICM: H01M002-12
ICS: H01M002-08; H01M002-16; H01M004-50
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 25 OF 37 USPATFULL
AN 2001:43880 USPATFULL
TI Alkaline cell with semisolid cathode
IN Kelsey, G. Stephen, Nashua, NH, United States
Chalilpoyil, Purush, Lincoln, MA, United States
Trainer, Philp D., Medway, MA, United States
Kaplan, Alex, Providence, RI, United States
Cintra, George, Holliston, MA, United States
Vu, Viet H., Medway, MA, United States
Sillesky, John D., Franklin, MA, United States
PA Duracell Inc, Bethel, CT, United States (U.S. corporation)
PI US 6207322 B1 20010327
AI US 1998-192863 19981116 (9)
DT Utility
FS Granted
LN.CNT 1179
INCL INCLM: 429/206.000
INCLS: 429/224.000; 429/229.000; 029/623.100; 029/623.200
NCL NCLM: 429/206.000
NCLS: 029/623.100; 029/623.200; 429/224.000; 429/229.000
IC [7]
ICM: H01M004-50
ICS: H01M004-24; H01M004-30; H01M006-04
EXF 429/206; 429/224; 429/229; 029/623.1; 029/623.2
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 26 OF 37 USPATFULL
AN 1998:138589 USPATFULL
TI Electrodeposited copper foil for fine pattern and method for producing
the same
IN Wolski, Adam M., Edgewater Park, NJ, United States
Streel, Michel, Houffalize, Belgium
Suzuki, Akitoshi, Imaichi, Japan
Otsuka, Hideo, Imaichi, Japan
PA Circuit Foil Japan Co., Ltd., Tokyo, Japan (non-U.S. corporation)
PI US 5834140 19981110
AI US 1996-715104 19960918 (8)
PRAI JP 1995-244262 19950922
JP 1996-106743 19960426
DT Utility
FS Granted
LN.CNT 668
INCL INCLM: 429/220.000
INCLS: 205/057.000; 205/077.000; 205/296.000; 428/606.000; 428/607.000;
428/612.000; 428/675.000; 428/687.000; 428/935.000; 429/122.000;
429/245.000
NCL NCLM: 429/220.000
NCLS: 205/057.000; 205/077.000; 205/296.000; 428/606.000; 428/607.000;
428/612.000; 428/675.000; 428/687.000; 428/935.000;
429/122.000; 429/245.000
IC [6]
ICM: C25D001-04
EXF 205/50; 205/76; 205/77; 205/57; 205/296; 428/606; 428/607; 428/612;
428/675; 428/687; 428/935; 429/122; 429/220; 429/245
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 27 OF 37 USPATFULL
AN 95:103334 USPATFULL
TI Lightweight zinc electrode
IN Ferrando, William A., Arlington, VA, United States
PA The United States of America as represented by the Secretary of the
Navy, Washington, DC, United States (U.S. government)
PI US 5468570 19951121
AI US 1995-379380 19950126 (8)
DT Utility
FS Granted
LN.CNT 430
INCL INCLM: 429/217.000
INCLS: 429/229.000; 429/231.000; 429/235.000; 429/245.000; 252/182.100
NCL NCLM: 429/217.000
NCLS: 252/182.100; 429/229.000; 429/231.000;
429/235.000; 429/245.000
IC [6]
ICM: H01M004-38
ICS: H01M004-48
EXF 429/217; 429/229-231; 429/235; 429/245; 429/190; 429/192; 252/182.1
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 28 OF 37 USPATFULL
AN 94:9476 USPATFULL
TI Lightweight zinc electrode
IN Ferrando, William A., Arlington, VA, United States
PA The United States of America as represented by the Secretary of the Navy, Washington, DC, United States (U.S. government)
PI US 5283138 19940201
AI US 1993-97181 19930727 (8)
DT Utility
FS Granted
LN.CNT 501
INCL INCLM: 429/217.000
INCLS: 429/229.000; 429/231.000; 429/245.000
NCL NCLM: 429/217.000
NCLS: 429/229.000; 429/231.000; 429/245.000
IC [5]
ICM: H01M004-38
ICS: H01M004-48; H01M004-66
EXF 429/231; 429/229; 429/217; 429/245
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 29 OF 37 USPATFULL
AN 90:17588 USPATFULL
TI Sintered type negative cadmium electrode for an alkaline storage cell and method of manufacturing the same
IN Terasaka, Masayuki, Sumoto, Japan
Itou, Tukasa, Sumoto, Japan
Awajitani, Takahisa, Sumoto, Japan
Matsui, Kazuhiro, Sumoto, Japan
PA Sanyo Electric Co., Ltd., Moriguchi, Japan (non-U.S. corporation)
PI US 4906539 19900306
AI US 1988-216487 19880708 (7)
PRAI JP 1987-170534 19870708
JP 1987-294333 19871120
DT Utility
FS Granted
LN.CNT 671
INCL INCLM: 429/217.000
INCLS: 429/222.000; 427/058.000; 427/415.000; 252/182.100
NCL NCLM: 429/217.000
NCLS: 252/182.100; 427/058.000; 427/415.000; 429/222.000
IC [4]
ICM: H01M004-36
EXF 429/222; 429/217; 429/215; 427/415; 427/58; 029/623.5; 252/182.1
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 30 OF 37 USPATFULL
AN 89:102162 USPATFULL
TI Alkali metal polysilica gel electrolyte lead-acid battery and method for making the same
IN Misra, Sudhan S., Lansdale, PA, United States
Noveske, Terrence M., Pipersville, PA, United States
PA C & D Power Systems, Inc., Plymouth Meeting, PA, United States (U.S.

corporation)
PI US 4889778 19891226
AI US 1988-185501 19880425 (7)
RLI Division of Ser. No. US 1987-79086, filed on 29 Jul 1987
DT Utility
FS Granted
LN.CNT 702
INCL INCLM: 429/190.000
INCLS: 429/225.000
NCL NCLM: 429/302.000
NCLS: 429/225.000
IC [4]
ICM: H01M010-10
EXF 429/190; 429/189; 429/225; 429/204; 252/189; 252/315.01; 252/315.5; 252/145; 361/526; 204/414
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 31 OF 37 USPATFULL
AN 89:2791 USPATFULL
TI Ionic semiconductor materials and applications thereof
IN Peck, Robert L., Lebanon, CT, United States
PA T and G. Corporation, Lebanon, CT, United States (U.S. corporation)
PI US 4797190 19890110
AI US 1986-915994 19861006 (6)
DT Utility
FS Granted
LN.CNT 1443
INCL INCLM: 204/296.000
INCLS: 429/033.000; 429/190.000; 429/192.000
NCL NCLM: 204/296.000
NCLS: 429/033.000; 429/301.000; 429/303.000
IC [4]
ICM: C25B013-00
EXF 204/296; 204/290R; 204/283; 429/33; 429/190; 429/192
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 32 OF 37 USPATFULL
AN 86:17015 USPATFULL
TI Fuel cell using quinones to oxidize hydroxylic compounds
IN Hertl, William, Corning, NY, United States
Schaeffler, Robert G., Elmira, NY, United States
PA Corning Glass Works, Corning, NY, United States (U.S. corporation)
PI US 4578323 19860325
AI US 1983-544279 19831021 (6)
DT Utility
FS Granted
LN.CNT 362
INCL INCLM: 429/015.000
INCLS: 429/046.000; 429/111.000
NCL NCLM: 429/015.000
NCLS: 429/046.000; 429/111.000
IC [4]
ICM: H01M008-20

ICS: H01M008-22
EXF 429/111; 429/15; 429/46; 429/19
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 33 OF 37 USPATFULL
AN 82:62930 USPATFULL
TI Electrical energy storage
IN McGinness, John E., Houston, TX, United States
PA MB-80 Energy Corporation, Houston, TX, United States (U.S. corporation)
PI US 4366216 19821228
AI US 1981-222018 19810102 (6)
DT Utility
FS Granted
LN.CNT 601
INCL INCLM: 429/213.000
INCLS: 429/152.000
NCL NCLM: 429/213.000
NCLS: 429/152.000
IC [3]
ICM: H01M004-60
EXF 429/212; 429/213; 429/214; 429/215; 429/152; 429/162
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 34 OF 37 USPATFULL
AN 81:16438 USPATFULL
TI Electrolytic device
IN Alvarez, Mario Y., Avenida 39 No. 14-92, Bogota, Colombia
Mejia, Oscar, Avenida 39 No. 14-92, Bogota, Colombia
PI US 4258110 19810324
AI US 1976-657293 19760211 (5)
RLI Continuation-in-part of Ser. No. US 1974-446900, filed on 28 Feb 1974, now abandoned
PRAI CO 1973-142075 19731109
DT Utility
FS Granted
LN.CNT 664
INCL INCLM: 429/188.000
INCLS: 429/190.000
NCL NCLM: 429/188.000
NCLS: 429/301.000
IC [1]
ICM: H01M006-06
EXF 136/157; 136/158; 136/107; 136/154; 317/242; 429/188; 429/190; 429/218; 429/164; 429/166; 361/433
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 35 OF 37 USPATFULL
AN 73:47839 USPATFULL
TI METHOD OF PRODUCING A GEL CONTAINING CONCENTRATED SULFURIC ACID
IN Lauck, Helmut, Schlobborn, Germany, Federal Republic of
PA Varta Aktiengesellschaft, Frankfurt am Main, Germany, Federal Republic of (non-U.S. corporation)
PI US 3765950 19731016

AI US 1972-261162 19720609 (5)
RLI Continuation-in-part of Ser. No. US 1970-16931, filed on 5 Mar 1970, now
abandoned
PRAI DE 1969-1911976 19690310
DT Utility
FS Granted
LN.CNT 195
INCL INCLM: 136/158.000
INCLS: 252/317.000
NCL NCLM: 429/303.000
NCLS: 429/204.000
IC [1]
ICM: H01M009-04
EXF 136/157; 136/158; 252/317
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 36 OF 37 USPATFULL
AN 72:15143 USPATFULL
TI ELECTROCHEMICAL CELL WITH AT LEAST ONE GAS DIFFUSION ELECTRODE
IN Grubb, Willard T., Schenectady, NY, United States
Macur, Robert A., Milwaukee, WI, United States
PA General Electric Company, United States
PI US 3650836 19720321
AI US 1970-25703 19700406 (5)
DT Utility
FS Granted
LN.CNT 314
INCL INCLM: 136/086.000R
NCL NCLM: 429/027.000
NCLS: 429/042.000; 429/105.000
IC [1]
ICM: H01M027-00
EXF 136/86; 136/157; 136/145
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 37 OF 37 USPATFULL
AN 71:38604 USPATFULL
TI NOVEL CARBON COMPOSITIONS, METHODS OF PRODUCTION, AND USE
IN Sprague, James W., Streetsboro, OH, United States
PA The Standard Oil Company, Cleveland, OH, United States
PI US 3615829 19711026
AI US 1965-471097 19650712 (4)
DT Utility
FS Granted
LN.CNT 1220
INCL INCLM: 136/006.000
INCLS: 023/209.300; 136/121.000; 136/122.000; 204/131.000; 252/509.000
NCL NCLM: 429/103.000
NCLS: 205/768.000; 252/509.000; 423/445.000R; 429/199.000;
429/209.000
IC [1]
ICM: C14C003-34
ICS: H01M013-02; H01M035-00

EXF 136/86; 136/6; 136/120; 136/121; 136/122; 136/34; 136/22; 136/155; 204/130; 204/294; 204/39; 204/131; 252/425; 252/445; 252/502; 252/503; 252/506; 252/509; 023/209.1; 023/209.2; 023/209.3

=> d hit 11-37
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, WPIDS, JAPIO, USPATFULL' - CONTINUE? (Y)/N:y

L7 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC H01M004-96; C04B035-52
AB A mixt. of a carbonaceous material, Pb or a Pb compd., and a binder is sintered to prep. a gas-diffusion electrode. Thus, a mixt. of <20 mesh charcoal 100, acetylene black 30, PbO 2, and molasses 40 parts was sintered at .apprx.800.degree., and the sintered product was machined to a cathode for air batteries. An air battery using the cathode had a stable output.

binder w/ molasses

L7 ANSWER 12 OF 37 WPIDS (C) 2002 THOMSON DERWENT
TI Active electrode composition for alkaline electrochemical cell, contains binder consisting of monosaccharide, disaccharide, pectin or molasses.

Applicant

PI WO 2001059866 A1 20010816 (200161)* EN 15p H01M004-62 <--
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
W: CA
ADT WO 2001059866 A1 WO 2001-US2894 20010129
PRAI US 2000-501944 20000210
IC ICM H01M004-62
AB WO 200159866 A UPAB: 20011024
NOVELTY - An active electrode composition comprises an active electrode material, and a binder consisting of monosaccharide, disaccharide, pectin, or molasses.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for an alkaline electrochemical cell comprising positive electrode(s), negative electrode(s), and an alkaline electrolyte. The positive and/or negative electrodes include the inventive active composition.
USE - As an active composition for electrodes of an alkaline electrochemical cell.
ADVANTAGE - The inventive composition improves the electrochemical and mechanical properties of the electrodes, thus providing electrochemical cell with improved cycle life.
Dwg.0/0
TT TT: ACTIVE ELECTRODE COMPOSITION ALKALINE ELECTROCHEMICAL CELL CONTAIN BIND CONSIST PECTIN MOLASSES.

L7 ANSWER 13 OF 37 WPIDS (C) 2002 THOMSON DERWENT
TI Zinc pole for alkali accumulator for electric car - contg. pectin as binder for zinc active material NoAbstract Dwg 1/2.

binder w/ pectin

AN 1990-338746 [45] WPIDS
IC H01M004-62
MC CPI: L03-E01B6; L03-H05
EPI: X16-E09; X21-B01
TT TT: ZINC POLE ALKALI ACCUMULATOR ELECTRIC CAR CONTAIN PECTIN BIND ZINC ACTIVE MATERIAL NOABSTRACT.

L7 ANSWER 14 OF 37 WPIDS (C) 2002 THOMSON DERWENT

TI Polarisation electrode mfr. used for electrochromic display etc. - using activated carbon powder or fibre mfd. by carbonising powder or fibre and coal tar or pitch and molasses NoAbstract Dwg 1/1.
AN 1989~~-051558 [07] WPIDS~~
IC G02F001-17; H01G009-00; H01M004-04
TT TT: POLARISE ELECTRODE MANUFACTURE ELECTROCHROMIC DISPLAY ACTIVATE CARBON POWDER FIBRE MANUFACTURE CARBONISE POWDER FIBRE COAL TAR PITCH MOLASSES NOABSTRACT.
AW: DOUBLE LAYER CAPACITOR.

L7 ANSWER 15 OF 37 WPIDS (C) 2002 THOMSON DERWENT
AB JP 73029262 B UPAB: 19930831
The electrode has a part adjoining the electrolyte consisting of a substance mixed with a powdered alkali-sol. substance such as PVA or CMC for enlarging the reaction area of the electrode by dissolution of the alkali-sol. substance in the alkaline electrolyte. In an example, the powdered activated carbon was made as follows: powdered carbon such as charcoal and graphite had added to them an activating agent such as NH4Cl, Mn chloride or HCl, and a binding agent such as tar, pitch, or molasses. The mixt., after moulding into shaped pieces, was heated ~~in a reducing~~ atmos. to approx 1000 degrees C for activation. The activated carbon powder was obtd. by pulverizing the heated prod. until -60 mesh grains accounted for 60-80% of the whole powder. Then, two different powder mixts., one of them contg. 75-80 wt.% and the other 50-60 wt.% of the above carbon powder, were prepd. using the acetylene black (5 wt.%) and powdered polyethylene (10-20 wt.%) for the former mixt., and -100 mesh PVA powder (40-50 wt.%) for the latter. Upon a moulded metal was spread flat 20g of the first powder mixt., upon which was placed a Ni net with a cathode Pb plate spot welded to it. Upon the net were spread 80g of the first and 10g of the second powder mixts. in that order. The lamination was moulded at a 18 kg/cm2 pressure.
MC CPI: A12-E06; L03-E01B; L03-E04B

air fuel cell
E/C

L7 ANSWER 16 OF 37 JAPIO COPYRIGHT 2002 JPO
IC ICM H01M004-38
AB PURPOSE: To provide a secondary battery with high voltage compared with the conventional battery, no deposition of dendrites attendant on charge/discharge cycles, and relatively easy handling capability by using a porous carbon electrode into which metallic gallium or a gallium allay is filled as a negative electrode.
CONSTITUTION: Cobalt powder, zinc powder, and carboxymethylcellulose are added to nickel hydroxide powder, adequate amount of water is added to the mixture to form paste, a nickel foam is coated with the paste obtained, dried, then pressed to form a positive electrode 6. Graphite powder, activated carbon powder, and animal protein are added to hard charcoal powder, and the mixture obtained is kneaded with coal tar, molasses, and wood tar, then the kneaded material is press-molded in a mold at a specified pressure to bury them in the activated carbon. The molded body is baked and sintered, and a plurality of holes are installed in the sintered body to form a carbon electrode 1. Metallic gallium 2 is put into the carbon electrode 1 to form a current collector, and a current carrying plate is arranged at the tip of the current collector to form a negative electrode 5. The negative electrode 5 and the

KO 4

positive electrode 6 are arranged in an electrolytic bath, and potassium hydroxide aqueous solution is used as an electrolyte 4 to form a secondary battery.

L7 ANSWER 17 OF 37 JAPIO COPYRIGHT 2002 JPO
IC ICM H01M004-62
ICS H01M004-24
AB PURPOSE: To provide paste with fluidity with a less amount of dispersing agent, improving the producibility, and enhance the electric discharging performance by using pectin to the binder consisting of Zn oxide powder and Zn powder or a simple substance of Zn powder.

same 4 5
a.5

CONSTITUTION: Pectin is used to the binder consisting of Zn oxide powder and Zn powder or a simple substance of Zn powder, and thereby a paste with good fluidity is obtained. Using a continuous coating device this paste is coated on a Cu or Ag electricity collector, which has undergone punching and surface roughing process. The output is dried in a drying furnace 4 and passed through a roll couple 8 for adjustment of the thickness as electrode plate, and thus a Zn plate is manufactured. Using pectin as a binder gives a large mechanical strength, easiness for processing, and excellent battery performance.

L7 ANSWER 18 OF 37 JAPIO COPYRIGHT 2002 JPO
IC ICM H01M004-88
AB PURPOSE: To prevent any separation of carbon from a gas diffusing electrode, and increase the life of the electrode by impregnating a nickel sintered body for the electrode with a substance which can be carbonized by heating, before the impregnated nickel sintered body is carbonized so as to make carbon to be produced.
CONSTITUTION: A net made of nickel wire is placed in the center of carbonyl nickel powder, before this is sintered in an atmosphere of hydrogen, thus a nickel sintered body being prepared. The nickel sintered body, next, is impregnated with a substance such as saccharose, blackstrap molasses, a tar or a synthetic resin that can be carbonized by heating, before thus impregnated nickel sintered body is dried and heated (the former substance turns to be carbon), thus a carbon layer being formed. The former heating preferably is carried out in an inert gas atmosphere containing at least one of oxygen and steam.

X L7 ANSWER 19 OF 37 USPATFULL
DETD The adhesive to be applied to etching 133 is preferably a solvent based mixture comprising a polyacrylamide based adhesive component. The adhesive component is desirably a low molecular weight thermoplastic polyamide resin. A preferred polyamide resin is available under the trade designation REAMID-100 or VERSAMID-100 (from Henkel Corp. or Cognis Corp.). REAMID-100 or Versamid-100 is a low molecular weight polyamide which is a gel at room temperature. It is as a dimerized fatty acid with a molecular weight of about 390 and is the reaction product of a dimerized fatty acid and diamine. It has a molasses consistency and viscosity of between about 30 and 50 poise at room temperature. The adhesive mixture is easily formed by dissolving the

REAMID-100 polyamide in a solvent of isopropanol 50 parts by weight and toluene 50 parts by weight. Another suitable solvent for REAMID-100 can be a mixture of isopropanol 40 parts by weight, toluene 40 parts by weight and butanol 20 parts by weight. Adhesive mixture comprising REAMID-100 and suitable solvent blended to achieve the desired mixture viscosity of about 1100 centipoise can be obtained from Specialty Chemicals Co. The polyamide based adhesive is desirable since it provides a very strong adhesive bond between materials such as Teflon and metal, e.g. between Teflon sheet and nickel plated steel at low adhesive thickness. Specifically the polyamide adhesive layer 143 applied to the inside surface of cathode casing step 245 provides a very strong bond between Teflon sheet 232 and the nickel plated casing (step 245) at low adhesive thickness (e.g., 7 micron thickness after solvent evaporation). The polyamide based adhesive mixture also is desirable since it is resistant to chemical attack from the potassium hydroxide electrolyte. Although higher molecular weight polyamide based adhesive components can be used in the mixture it is desirable to use a lower molecular weight polyamide such as REAMID-100, since such lower molecular weight adhesive is more easily dissolved in the solvent. It is also desired to adjust the adhesive viscosity so that the adhesive being dispensed from canister-140 is neither too thick nor too thin. If the adhesive mixture is too thick gum deposits can form within canister 140 and pass to its open edge.

NCL NCLM: 029/623.200
NCLS: 429/162.000; 429/209.000; 429/229.000 ; 429/027.000

X L7 ANSWER 20 OF 37 USPATFULL

DETD The substance dispersed in the electrolyte solution can include organic compounds. Specific examples of such organic compound are amino acid series materials such as gelatin, glues, and proteins; and sugar materials such as glucose, fructose, saccharose, starch, dextrin, glycogen, molasses, licorice, and celluloses. Besides, cresolsulfonic acid, .beta.-naphthol, formalin, hydroquinone, polyethylene glycol, and vinyl compounds are also usable.

not in binder

NCL NCLM: 429/233.000
NCLS: 429/209.000; 429/235.000

IC [7]
ICM: H01M004-66

L7 ANSWER 21 OF 37 USPATFULL

DETD [0216] Depending on its average degree of polymerization, the oxyalkylene chain-bearing polyvinyl alcohol unit-containing polymeric compound used as component (b) varies in appearance at room temperature (20.degree. C.) from a highly viscous molasses-like liquid to a rubbery solid. The higher the average molecular weight, the more the compound, with its low fluidity at room temperature, qualifies as a solid (albeit a soft, paste-like solid).

electrolyte

DETD [0230] Depending on its molecular weight, the polyglycidol varies in appearance at room temperature (20.degree. C.) from a highly viscous molasses-like liquid to a rubbery solid. The higher the molecular weight, the more the compound, with its low fluidity at room temperature, qualifies as a solid (albeit a soft, paste-like solid).

electrolyte

NCL NCLM: 429/300.000

L7 ANSWER 22 OF 37 USPATFULL

DETD [0244] Depending on its average degree of polymerization, the polyvinyl alcohol unit-containing polymeric compound used as component E varies in appearance at room temperature (20.degree. C.) from a highly viscous molasses-like liquid to a rubbery solid. The higher the molecular weight, the more it qualifies as a solid (albeit a soft, paste-like solid) with its low fluidity at room temperature.

DETD [0302] Depending on its molecular weight, the polyglycidol varies in appearance at room temperature (20.degree. C.) from a highly viscous molasses-like liquid to a rubbery solid. The higher the molecular weight, the more it qualifies as a solid (albeit a soft, paste-like solid) with its low fluidity at room temperature.

NCL NCLM: 429/306.000
NCLS: 429/309.000; 429/317.000; 029/623.500

L7 ANSWER 23 OF 37 USPATFULL

SUMM [0162] L. An immobilized stabilised all-vanadium electrolyte solution for use in an immobilized electrolyte solution containing all-vanadium redox battery, comprising the HED electrolyte solution of the invention, including embodiment A, immobilized with an effective immobilising amount of an immobilising agent selected from the group consisting of gels, gums, Xanthan gum, Guar gum, starch, furcellaran, hypnean, dextran, tamarind, alginates, pectic gels, sodium pectate, alkylcellulose hydrophilic colloids, hydroxyalkylcellulose, carboxyalkylcellulose, hydroxypropyl methyl cellulose, sodium carboxymethylcellulose, potassium carboxymethyl cellulose, hydroxymethylcellulose, ethyl succinylated Cellulose, succinylated zein, carboxymethylcellulose, sodium poly (styrene sulphonate) with poly (vinyl methyl pyridinium) chloride, sodium poly (styrene sulphonate) with poly (vinyl benzyl trimethyl ammonium) chloride, vinyl acetate homopolymer, polyvinyl alcohol resin, carboxypolymethylene, sodium alginate, a mixture of gelatin and sodium alginate, potassium alginate, gelatine, acacia gum, deacetylated gellan gum, karaya gum, locust bean gum, tragacanth gum, agar-agar, algin and derivatives and alkali metal salts thereof, thereof, carrageenin, furcellaran, carrageenan, carob bean gum, oat gum, pectin, methyl cellulose, (hydroxypropyl)methyl cellulose, sodium carboxymethyl cellulose, polygalacturonic acid and mixtures thereof.

SUMM [0167] Q. A method of preparing an immobilized all-vanadium electrolyte solution for use in an immobilized electrolyte solution containing all-vanadium redox battery, comprising preparing the all-vanadium electrolyte solution according to the method of the invention, including the method of any one of embodiments E to I and immobilizing the all-vanadium electrolyte solution with an effective immobilizing amount of an immobilizing agent wherein the immobilizing agent is selected from the group consisting of gels, gums, Xanthan gum, sodium hexametaphosphate, myo-inositol, Guar gum, starch, furcellaran, hypnean, dextran, tamarind, alginates, pectic gels, sodium pectate, potassium pectate, alkylcellulose hydrophilic colloids, hydroxyalkylcellulose, carboxyalkylcellulose, hydroxypropylmethyl cellulose, sodium

carboxymethylcellulose, potassium carboxymethyl cellulose, hydroxymethylcellulose, ethyl succinylated Cellulose, succinylated zein, carboxymethylcellulose, sodium poly (styrene sulphonate) with poly (vinyl methyl pyridinium) chloride, sodium poly (styrene sulphonate) with poly (vinyl benzyl trimethyl ammonium) chloride, vinyl acetate homopolymer, polyvinyl alcohol resin, carboxypolymethylene, sodium alginate, gelatin, a mixture of gelatin and sodium alginate, a mixture of gelatin and potassium alginate, potassium alginate, gelatine, acacia gum, deacetylated gellan gum, karaya gum, locust bean gum, tragacanth gum, agar-agar, algin and derivatives and alkali metal salts thereof, thereof, carrageenin, furcellaran, carrageenan, carob bean gum, oat gum, pectin, methyl cellulose, (hydroxypropyl)methyl cellulose, polygalacturonic acid and mixtures thereof.

SUMM [0400] L. An immobilized stabilised all-vanadium electrolyte solution for use in an immobilized electrolyte solution containing all-vanadium redox battery, comprising the stabilised electrolyte solution of the invention, including embodiment A, immobilized with an effective immobilizing amount of an immobilizing agent selected from the group consisting of gels, gums, Xanthan gum, Guar gum, starch, furcellaran, hypnean, dextran, tamarind, alginates, pectic gels, sodium pectate, alkylcellulose hydrophilic colloids, hydroxyalkylcellulose, carboxyalkylcellulose, hydroxypropylmethyl cellulose, sodium carboxymethylcellulose, potassium carboxymethyl cellulose, hydroxymethylcellulose, ethyl succinylated Cellulose, succinylated zein, carboxymethylcellulose, sodium poly (styrene sulphonate) with poly (vinyl methyl pyridinium) chloride, sodium poly (styrene sulphonate) with poly (vinyl benzyl trimethyl ammonium) chloride, vinyl acetate homopolymer, polyvinyl alcohol resin, carboxypolymethylene, Sodium alginate, a mixture of gelatin and sodium alginate, potassium alginate, gelatine, acacia gum, deacetylated gellan gum, karaya gum, locust bean gum, tragacanth gum, agar-agar, algin and derivatives and alkali metal salts thereof, thereof, carrageenin, furcellaran, carrageenan, carob bean gum, oat gum, pectin, methyl cellulose, (hydroxypropyl)methyl cellulose, sodium carboxymethyl cellulose, polygalacturonic acid and mixtures thereof.

SUMM [0405] Q. A method of preparing an immobilized stabilised all-vanadium electrolyte solution for use in an immobilized electrolyte solution containing all-vanadium redox battery, comprising preparing the stabilised all-vanadium electrolyte solution according to the method of the invention, including the method of any one of embodiments E to I and immobilizing the stabilised all-vanadium electrolyte solution with an effective immobilizing amount of an immobilizing agent wherein the immobilizing agent is selected from the group consisting of gels, gums, Xanthan gum, sodium hexametaphosphate, myo-inositol, Guar gum, starch, furcellaran, hypnean, dextran, tamarind, alginates, pectic gels, sodium pectate, potassium pectate, alkylcellulose hydrophilic colloids, hydroxyalkylcellulose, carboxyalkylcellulose, hydroxypropylmethyl cellulose, sodium carboxymethylcellulose, potassium carboxymethyl cellulose, hydroxymethylcellulose, ethyl succinylated Cellulose, succinylated zein, carboxymethylcellulose, sodium poly (styrene sulphonate) with poly (vinyl methyl pyridinium) chloride, sodium poly

(styrene sulphonate) with poly (vinyl benzyl trimethyl ammonium) chloride, vinyl acetate homopolymer, polyvinyl alcohol resin, carboxypolymethylene, sodium alginate, gelatin, a mixture of gelatin and sodium alginate, a mixture of gelatin and potassium alginate, potassium alginate, gelatine, acacia gum, deacetylated gellan gum, karaya gum, locust bean gum, tragacanth gum, agar-agar, algin and derivatives and alkali metal salts thereof, thereof, carrageenin, furcellaran, carrageenan, carob bean gum, oat gum, pectin, methyl cellulose, (hydroxypropyl)methyl cellulose, polygalacturonic acid and mixtures thereof.

NCL NCLM: 429/105.000
NCLS: 429/188.000; 429/205.000; 429/050.000

L7 ANSWER 24 OF 37 USPATFULL
DETD [0046] Semisolid as used herein is intended to broadly cover all physical states which are intermediate in property between true solid and true liquid. A semisolid film as used herein (for example, but not by way of any limitation) as a thin continuous sheet of material which does not flow of its own accord and has an extremely high or infinite viscosity under zero or near zero shear rate conditions but flows or yields under the predetermined shear rate conditions that may exist during application of the film to the surface. Thus, the term semisolid is intended to include (for example, but not by way of any limitation) physical states having the soft texture and rheological properties commonly associated with putties or gels. (A gel can be considered, for example, a solid material suspended in liquid medium to form a jelly-like mass that retains a characteristic shape.) The semisolid material as used herein includes (for example, but not by way of any limitation) materials that are not free flowing as is a liquid but generally requires an external force in order to cause the material to move through a conduit. In this regard the term semisolid is intended to include such highly viscous material, for example, at least as viscous as molasses and having a measurable kinematic viscosity at 20.degree. C. The term semisolid is also intended (for example, but not by way of any limitation) to apply to materials which may be extrudable and which can be deformed without fracturing upon exertion of external pressure.
NCL NCLM: 429/056.000
NCLS: 429/174.000; 429/254.000; 429/224.000
IC [7]
ICM: H01M002-12
ICS: H01M002-08; H01M002-16; H01M004-50

L7 ANSWER 25 OF 37 USPATFULL
DETD The term semisolid as used herein is intended to broadly cover all physical states which are intermediate in property between true solid and true liquid. Thus, the term semisolid is intended to include (for example, but not by way of any limitation) physical states having the soft texture and rheological properties commonly associated with putties and pastes. The semisolid material as used herein includes (for example, but not by way of any limitation) materials that are not free flowing as is a liquid but generally requires an external force in order to cause

~~JP~~
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102(e) date

the material to move through a conduit. The term semisolid is also intended (for example, but not by way of any limitation) to apply to materials which are extrudable and which can be deformed without fracturing upon exertion of external pressure. The term semisolid as used herein (for example, but not by way of any limitation) is also intended to include highly viscous substances which may slowly ooze through a conduit when placed in vertical position. In this regard the term semisolid is intended to include such highly viscous material, for example, at least as viscous as molasses and having a measurable kinematic viscosity at 20.degree. C.

DETD The zinc/MnO.sub.2 cell 10 may represent a conventional primary alkaline cell manufactured in conventional manner, except for the MnO.sub.2 cathode 12. The representative alkaline cell 10 may employ a conventional anode 50 comprising particulate zinc, conventional potassium hydroxide electrolyte and conventional separator. It is preferred that the zinc anode has no "added mercury". Zero-added mercury cells contain no added amounts of mercury, but may contain only the residual amount of mercury present in commercially available pure zinc, including the residual amount of mercury, if any, present in the other cell components. The total mercury content in such cells is less than 50 parts mercury per million parts total cell weight, typically less than 10 parts mercury per million parts total cell weight. However, the present invention is also applicable to zinc/MnO.sub.2 primary alkaline cells containing mercury. All the components in the cell including the anode active material, electrolyte and separator, except for cathode 12, may be composed of materials conventionally employed in such cells. Cathode 12 comprises the semisolid cathode material of the invention. Cathode 12 is a semisolid, which may typically have the consistency of a putty or paste, for example, the consistency of a sealing putty or adhesive paste. Cathode 12 of the invention could also have the flow properties of a highly viscous material such as molasses, having a measurable viscosity, for example, having a kinematic viscosity of at least 100 centistokes. Cathode 12 desirably comprises less than about 80 percent by weight MnO.sub.2, for example, between about 40 and 80, typically between about 45 and 78 percent by weight MnO.sub.2, more typically between about 45 and 70 percent by weight MnO.sub.2. In the representative alkaline cell 10 the anode material 50 forms the central core of the cell and the cathode material 12 is located around the anode material with the separator 60 therebetween. The cathode material contacts the inside surface of the cell casing which is typically of nickel plated steel or stainless steel.

NCL NCLM: 429/206.000
NCLS: 029/623.100; 029/623.200; 429/224.000; 429/229.000

IC [7]
ICM: H01M004-50
ICS: H01M004-24; H01M004-30; H01M006-04

L7 ANSWER 26 OF 37 USPATFULL

SUMM In order to prevent the pinhole or the like, a chloride ion is added to the electrolyte, or the electrolyte is passed through a filter containing activated carbon to remove dust and oils. In order to prevent microporosity and adjust the mountain-valley shape of the matte side,

glue has heretofore been added to the electrolyte, and it has been also proposed to add various organic materials and inorganic materials as additives other than glue. Technology of producing an electrodeposited copper foil for a printed-wiring board is based on plating technology as can be understood from the point that electrodes are provided in a solution containing a metal salt and electricity is passed to the electrodes to electrodeposit a metal on a cathode. As an additive for producing the electrodeposited copper foil for a printed-wiring board, an additive for copper plating can be diverted in many cases. Glue, thiourea and molasses have heretofore been known as a brightener for copper plating, and when the above additives are added to the electrolyte, it can be expected to exhibit a so-called brightening effect, i.e., an effect of making roughness of the matte side smaller with respect to the electrodeposited copper foil for a printed-wiring board. In U.S. Pat. No. 5,171,417, there has been disclosed a method of producing an electrodeposited copper foil, in which activated sulfur such as thiourea is used as an additive. However, the electrodeposited copper foil for a printed-wiring board is produced with current density which is higher than that of common plating in order to improve productivity, etc.; in recent years, characteristics required for the electrodeposited copper foil for a printed-wiring board have been heightened significantly; and in particular, there has been demanded strongly a copper foil in which roughness of the matte side is suppressed without impairing mechanical characteristics such as elongation, whereby satisfactory characteristics cannot be obtained under the present circumstances even when the above additives for plating are used as such as additives for the electrodeposited copper foil for a printed-wiring board.

added to electrolyte

NCL NCLM: 429/220.000
NCLS: 205/057.000; 205/077.000; 205/296.000; 428/606.000; 428/607.000; 428/612.000; 428/675.000; 428/687.000; 428/935.000; 429/122.000; 429/245.000

L7 ANSWER 27 OF 37 USPATFULL
DETD Applicant hereby incorporates by reference in its entirety U.S. Pat. No. 4,797,190, which is titled, "Ionic Semiconductor Materials and Applications Thereof," which issued on Jan. 10, 1989 to Robert L. Peck. Specifically Peck teaches a semiconductor membrane composite comprising an inert, solid impervious, nonporous polymer matrix with hydrogel dispersed within the polymer matrix. Peck (column 3, line 67 through column 4, line 2) discloses polyvinylidene chloride, polyvinyl chloride, polyvinylidene fluoride, polyethylene, polypropylene, urethane, and phenol formaldehyde as the preferred matrix polymers. Peck (column 3, lines 59-66) teaches that synthetic long chain polymeric hydrogels such as polyethylene oxide, polyacrylic acid, and polyacrylamide are preferred. Peck also discloses that hydrogels from natural sources such as hydroxethyl cellulose, gelatin, pectin, cellulose, and starch may also be used but are less preferred. Peck (column 1, lines 1-10) also discloses coupling agents that may be added to bond the hydrogel to the matrix polymer and thus reduce the leaching of the hydrogel from the matrix. Preferred coupling agents include polyacrylic acid, phenolic resin, cellulosic titanate, carbon, lignin, and silica.

membrane composite

DETD As Peck teaches the preferred hydrogels include polyethylene oxide, polyacrylic acid, polyacrylamide, hydroxyethyl cellulose, gelatin, pectin, cellulose, starch, or mixtures thereof, with polyethylene oxide, polyacrylic acid, polyacrylamide, or mixtures thereof being more preferred because of their greater resistance to leaching. Of these polyacrylic acid is the most preferred and may be mixed with polyethylene oxide or polyacrylamide to increase their resistance to leaching. However, as the Peck patent teaches the combination of a given hydrogel and a given matrix polymer should be tested for good chemical bonding and thus resistance to leaching.

CLM What is claimed is:

8. The zinc electrode of claim 1 wherein the hydrogel is polyethylene oxide, polyacrylic acid, polyacrylamide, hydroxethyl cellulose, gelatin, pectin, cellulose, starch, or mixtures thereof.

NCL NCLM: 429/217.000
NCLS: 252/182.100; 429/229.000; 429/231.000; 429/235.000; 429/245.000|

IC [6]
ICM: H01M004-38
ICS: H01M004-48|

L7 ANSWER 28 OF 37 USPATFULL

DETD Applicant hereby incorporates by reference in its entirety U.S. Pat. No. 4,797,190, which is titled, "Ionic Semiconductor Materials and Applications Thereof," which issued on Jan. 10, 1989 to Robert L. Peck. Specifically Peck teaches a semiconductor membrane composite comprising an inert, solid, impervious, nonporous polymer matrix with hydrogel dispersed within the polymer matrix. Peck (column 3, line 67 through column 4, line 2) discloses polyvinylidene chloride, polyvinyl chloride, polyvinylidene fluoride, polyethylene, polypropylene, urethane, and phenol formaldehyde as the preferred matrix polymers Peck (column 3, lines 59-66) teaches that synthetic long chain polymeric hydrogels such as polyethylene oxide, polyacrylic acid, and polyacrylamide are preferred. Peck also discloses that hydrogels from natural sources such as hydroxethyl cellulose, gelatin, pectin, cellulose, and starch may also be used but are ~~less preferred~~. Peck (column 1, lines 2-10) also discloses coupling agents that may be added to bond the hydrogel to the matrix polymer and thus reduce the leaching of the hydrogel from the matrix. Preferred coupling agents include polyacrylic acid, phenolic resin, cellulosic titanate, carbon, lignin, and silica.

membrane - composite

DETD As Peck teaches the preferred hydrogels include polyethylene oxide, polyacrylic acid, polyacrylamide, hydroxyethyl cellulose, gelatin, pectin, cellulose, starch, or mixtures thereof, with polyethylene oxide, polyacrylic acid, polyacrylamide, or mixtures thereof being more preferred because of their greater resistance to leaching. Of these polyacrylic acid is the most preferred and may be mixed with polyethylene oxide or polyacrylamide to increase their resistance to leaching. However, as the Peck patent teaches the combination of a given hydrogel and a given matrix polymer should be tested for good chemical bonding and thus resistance to leaching.

CLM What is claimed is:

7. The zinc electrode of claim 1 wherein the hydrogel is polyethylene

oxide, polyacrylic acid, polyacrylamide, hydroxethyl cellulose, gelatin, pectin, cellulose, starch, or mixtures.

NCL NCLM: 429/217.000
NCLS: 429/229.000; 429/231.000; 429/245.000
|
IC [5]
ICM: H01M004-38
ICS: H01M004-48; H01M004-66|

L7 ANSWER 29 OF 37 USPATFULL
SUMM In the above method of manufacturing the negative electrode, the polysaccharide may be selected from the group consisting of methyl cellulose, starch, pectin, carboxymethyl cellulose and hydroxypropyl cellulose.

DETD In the above mentioned First Embodiment, methyl cellulose was employed as an example of polysaccharide or its derivatives. The present invention is not limited to this, but other materials such as starch, pectin, carboxymethyl cellulose and hydroxypropyl cellulose may be employed if these materials have the polymerization degree of more than 320.
DETD In the aforesaid Second Embodiment, methyl cellulose was employed as an example of polysaccharide or its derivatives. However, the present invention is not limited to this, but other materials such as starch, pectin, carboxymethyl cellulose and hydroxypropyl cellulose can be used.
CLM What is claimed is:
4. A negative cadmium electrode as claimed in claim 1, characterized in that said polysaccharide or its derivatives is selected from the group consisting of methyl cellulose, starch, pectin, carboxymethyl cellulose and hydroxypropyl cellulose.

18. A method as claimed in claim 5, characterized in that said polysaccharide and its derivatives are selected from the group consisting of methyl cellulose, starch, pectin, carboxymethyl cellulose and hydroxypropyl cellulose.

NCL NCLM: 429/217.000
NCLS: 252/182.100; 427/058.000; 427/415.000; 429/222.000|
IC [4]
ICM: H01M004-36|

L7 ANSWER 30 OF 37 USPATFULL

pectin gel

SUMM U.S. Pat. No. 3,271,199 discloses a gelled storage battery electrolyte including a solution of aqueous sulfuric acid, pectin and colloidal silica. The electrolyte preferably contains about 0.3% of pectin by weight of the sulfuric acid solution. The pectin and colloidal silica are mixed in a dry state and then the mixture is combined with the sulfuric acid electrolyte.

SUMM The process includes intimately mixing pulverulent dry pectin and a supporting material such as natural rubber, synthetic rubber or

thermoplastic materials having a softening point below the decomposition temperature of pectin, processing the mixture to foils, sandwiching the foils between electrode plates and impregnating the foils with battery acid in an amount sufficient to produce a swollen pectin gel.

NCL NCLM: 429/302.000
NCLS: 429/225.000

L7 ANSWER 31 OF 37 USPATFULL
SUMM The water bonding material (hydrogel) is preferably selected from the group consisting of the synthesized or man-made long chain polymeric hydrogels including polyethylene oxide, polyacrylic acid, polyacrylamide. Hydrogels obtained from natural sources such as hydroxeythyl cellulose, gelatin, pectin, cellulose, and starch may also be utilized with a sacrifice in certain operational characteristics.

DETD A sheet of material was prepared from 40 percent pectin, 10 percent polymerizable cellulosic sold under the designation "106" sold by A. E. Staley Mfg. Co., and 50 percent Borden Co. homopolymer polyvinyl chloride resin sold under the trade name "VC-54". The cellulosic was added to facilitate the bonding of the hydrogel to the matrix. The cellulosic may also partially function as a hydrogel. The foregoing materials were mixed, melt blended, and pressure mixed as previously described to form flat sheets of material. The sheets were weighed and then soaked in water at room temperature for at least two hours. The sheets were blotted dry and reweighed. The absorbed water was found to increase the weight of the sheets by 13 percent.
CLM What is claimed is:
4. The material of claim 1 wherein the hydrogel is devised from natural materials selected from the group consisting of hydroxyethy cellulose, gelatin, pectin, cellulose and starch.

9. The material of claim 5 wherein the hydrogel is devised from natural materials selected from the group consisting of hydroxyethyl cellulose, gelatin, pectin, cellulose and starch.

NCL NCLM: 204/296.000
NCLS: 429/033.000; 429/301.000; 429/303.000|

L7 ANSWER 32 OF 37 USPATFULL
SUMM In some embodiments, the fuel source for the cell will be natural products, e.g., molasses, cane sugar, lignesite, Kraft black liquor, and beet sugar juice. Better performances with the products often can be obtained by enzymatically pretreating these products into more readily oxidized compounds. Suitable hydrolytic enzymes are invertase, maltase, amylase, lactase.

FC

DETD The donor fuels are all organic compounds having attached hydroxyl groups which can donate an electron, and thus, be oxidized. The list includes alcohols (primary, secondary, and tertiary), glycols, glycerols, hydrolized cellulose, lignosite, sugars, and other

carbohydrates. In fact, one of the advantages of the present invention is that its fuel tolerance ranges from methanol, to beet sugar, to molasses. Of course, the total power output and economic cost of the cell varies with the fuel used. In some cases the fuel is derived from enzyme treatment of a natural material. Examples are amylase treated starch, and invertase treated sucrose, or molasses.
Thus, materials not ordinarily useful in this fuel cell, starch, can be converted into a fuel.

DETD

Donor	Current (mA)
Glycerol (reference)	0.54
Cellulose-Acid Hydrolyzed	0.08
Sucrose	0.40
Sugar Beet Juice*	1.20
Lignesite	3.68
Molasses-Food Grade*	5.30
Sucrose-Acid Hydrolyzed	5.38
Molasses-Black Strap*	6.10
Dextrose	6.12

*Diluted to 5% solutes.

DETD

Fuel	Treatment	max.i (mA)	max.P (mW)	Lbs./ kwh @ max.P	Lbs./ kwh @ 50% P
Potato Starch	G. Amylase + .alpha. Amylase + Maltase	16.2	4.1	8.3	4.85
Potato Starch	G. Amylase	11.5	4.1	8.8	5.6
Sucrose	Invertase	18.6	3.83	6.1	3.75
Molasses	Invertase	17.5	2.69	8.47	4.73
Molasses	--	10	2.75	25.7	17.5
Dextrose	--	30	5.13	6.4	3.74
Lignosite	--	3	2.50	11.9	7.3

NCL NCLM: 429/015.000
NCLS: 429/046.000; 429/111.000

L7 ANSWER 33 OF 37 USPATFULL
DETD 100 grams of hydroquinone were added to 1000 ml of solution containing 1

ml tetranitromethane, 100 ml of diethylamine (DEA) and 900 ml of water in a 2000 ml beaker at 22.degree. C. The hydroquinone gradually entered the solution as polymerization proceeded the solution was stirred with a Fisher Scientific magnetic stirrer continuously at 22.degree. C. After 21 days, the stirring action was stopped and the polymer had a uniform density and was of a black color. The polymer was left in the beaker without stirring for seven days and the polymer precipitated as a sludge at the bottom of the beaker. The sludge was removed from the beaker with a spatula and had a granular consistency, was black in color, had a molasses-like viscosity and adhered readily to metal and plastic surfaces.

NCL NCLM: 429/213.000
NCLS: 429/152.000
IC [3]
ICM: H01M004-60

L7 ANSWER 34 OF 37 USPATFULL

DETD These superior characteristics are presumably due to the greater concentration of pectins, papains and pepsins in the papaya fruit.

electrolyte

DETD Papaya, due to its greater pectin, papain and pepsin capacity, displays several characteristics which also contribute to its superiority as organic electrolyte:

DETD (c) Its storage ~~produces decom~~position which forms additional pectins, papains, and pepsins capable of producing more current, discarding the nonconductive elements that, in their initial form, were not perceived as resistant.

NCL NCLM: 429/188.000
NCLS: 429/301.000

L7 ANSWER 35 OF 37 USPATFULL

SUMM Heretofore, the known solid electrolytes have been prepared by utilizing pectin and the like in their ~~manufacture and have~~ proved unsuitable because of the resultant great space requirements. Concentrated sulfuric acid cannot be solidified by means of the known organic thickening agents as these are attacked by concentrated sulfuric acid and do not form any gels therewith. The known inorganic thickening agents are also not suitable as these must be used in essentially greater amounts, and further, they give rise to an increase in the temperature during the activation which produces results that are detrimental.

electrolyte

NCL NCLM: 429/303.000
NCLS: 429/204.000

L7 ANSWER 36 OF 37 USPATFULL

DETD Suitable thickening agents which have the above properties and can be employed in the practice of this invention and are swellable in an aqueous alkaline electrolyte include the polymers of acrylic acid, carboxy polymethylene, carboxymethyl cellulose, methyl cellulose, algin, polyethylene oxide, polyvinyl alcohol, and mixtures thereof. Suitable thickening agents which can be employed in the practice of our invention and are swellable in an aqueous acid electrolyte include the polymers of

acrylic acid, carboxy polymethylene, algin, pectin, polyvinyl alcohol, carboxymethyl cellulose, and mixtures thereof.
NCL NCLM: 429/027.000
NCLS: 429/042.000; 429/105.000

L7 ANSWER 37 OF 37 USPATFULL
DETD One hundred milliliters of Green Label Brer Rabbit Molasses was placed in a No. 3-AUS 1-quart Baker-Perkins dough mixer and the mixer heated by means of the steam jacket until the molasses flowed freely. Small amounts of N-BC4567 Filtchar (a sodium lignosulfonate char obtained from the West Virginia Pulp and Paper Company) were added and mixed with the molasses until the mixture was not sticky to the touch and did not cling tenaciously to the sides of the mixer. The temperature of the mixer was raised to drive off sulfur dioxide and more Filtchar added to maintain the desired consistency. Water was evaporated from the mixture until a semidry rubbery mixture was obtained.
NCL NCLM: 429/103.000
NCLS: 205/768.000; 252/509.000; 423/445.000R; 429/199.000; 429/209.000

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YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, WPIDS, JAPIO, USPATFULL' - CONTINUE? (Y)/N:y

L7 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC ICM H01M004-62
IC ICS H01M004-04; H01M004-02
IT 7440-44-0, Carbon, uses 9000-01-5, Gum arabic 9000-69-5, Pectin 9002-89-5, Polyvinyl alcohol 9004-34-6D, Cellulose, derivs.
RL: MOA (Modifier or additive use); USES (Uses)
(method for prepn. of cathode for lithium ion batteries)

L7 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC ICM H01M004-02
IC ICS H01M004-58; H01M004-62; H01M010-40
IT 9000-69-5, pectin 9002-89-5, Poly(vinyl alcohol) 9004-32-4, Carboxymethylcellulose sodium salt 9005-38-3, Alginic acid sodium salt
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(water-sol. polymer on anode for high initial charge-discharge efficiency of nonaq. battery and its manuf.)

L7 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC ICM H01M004-38
IC ICS H01M004-48
IT 9000-69-5, Pectin 9002-85-1, Poly(vinylidene chloride) 9002-86-2, PVC 9002-88-4, Polyethylene 9003-01-4, Polyacrylic acid 9003-05-8, Polyacrylamide 9003-07-0, Polypropylene 9003-35-4, Formaldehyde-phenol polymer 9004-34-6, Cellulose, uses 9004-62-0, Hydroxyethyl cellulose 9005-25-8, Starch, uses 24937-79-9, Poly(vinylidene fluoride) 25322-68-3, PEO
RL: MOA (Modifier or additive use); USES (Uses)
(in lightweight zinc battery anode)

L7 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC ICM H01M004-38
IC ICS H01M004-48; H01M004-66
IT 9000-69-5, Pectin 9003-01-4, Polyacrylic acid 9003-05-8, Polyacrylamide 9004-34-6, Cellulose, uses 9004-62-0, Hydroxyethyl cellulose 9005-25-8, Starch, uses 25322-68-3, PEO
RL: USES (Uses)
(anodes contg., dispersed in inert polymer matrix, manuf. of lightwt. zinc, for batteries)

L7 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC ICM H01M004-62
IC ICS H01M004-24

1991

AB Pectin is used as binder in the manuf. of Zn anodes. Active-mass paste using this binder have high fluidity and workability, and batteries using the prepd. anodes have increased discharging capacity.

ST zinc battery anode pectin binder
IT Anodes
(battery, zinc, pectin in manuf. of, for improved workability and discharge performance)
IT 7440-66-6P, Zinc, uses and miscellaneous
RL: PREP (Preparation); USES (Uses)
(anodes, pectin in manuf. of, for batteries)
IT 9000-69-5, Pectin
RL: USES (Uses)
(binder, in zinc anode manuf., for alk. batteries)

L7 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC ICM H01M004-62
IC ICS H01M004-24; H01M004-28; H01M004-44
AB The anode contains polysaccharide of d.p. >320 or its deriv. Preferably, the polysaccharide (deriv.) exits only inside the anode at an amt. of 0.01-0.3% of the active mass. The polysaccharide is selected from Me cellulose, starch, pectin, CMC, and hydroxypropyl cellulose. The anode is prepd. by filling active mass into sintered Ni grid; adding the polysaccharide into the anode by impregnation, spraying, or painting, before or after forming, followed by flushing the anode surface. The addn. of the polysaccharide effectively prevents the accumulation of inactive Cd in the anode during cycling.

1989

ST battery cadmium anode polysaccharide; methyl cellulose cadmium anode; starch cadmium anode; pectin cadmium anode; CMC cadmium anode; hydrocypropyl cellulose cadmium anode
IT 9000-69-5, Pectin 9004-32-4, CMC 9004-64-2, Hydroxypropyl cellulose 9004-67-5, Methyl cellulose 9005-25-8, Starch, uses and miscellaneous
RL: USES (Uses)
(anodes contg., cadmium, paste-type, for batteries)

L7 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC ICS G02F001-17; H01M004-04
AB A polarized electrode is prepd. from a carbonized mixt. of an activated C powder or C fiber with coal tar and/or pitch or molasses by heating in an inert gas. The electrode has improved energy d., uniformity, and low resistance and is useful for elec. double layer capacitors, batteries, electrochromic display devices, etc.
ST polarized electrode activated carbon; coal tar pitch carbonization electrode; molasses carbonization polarized electrode
IT Electrodes
(carbon-based, from activated carbon mixt. with coal tar and pitch and molasses, by carbonization)
IT Molasses
Pitch
(polarized electrodes prepd. from activated carbon mixt. with, by carbonization)
IT Carbon fibers, uses and miscellaneous
RL: USES (Uses)
(polarized electrodes prepd. from coal tar and pitch and molasses and, by carbonization)
IT 7440-44-0P, Carbon, uses and miscellaneous

RL: PREP (Preparation); USES (Uses)
(activated, polarized electrodes prepd. from coal tar and pitch and molasses and, by carbonization)
IT 7440-44-0P
RL: PREP (Preparation)
(carbon fibers, polarized electrodes prepd. from coal tar and pitch and molasses and, by carbonization)

L7 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC H01M004-96
AB A compact of a carbonaceous powder-carbonizing binder mixt. or of porous sintered C is immersed into a Pb-salt soln. and activated to prep. the title cathodes. Thus, a compact prepd. from charcoal 100, acetylene black 30, molasses 40 parts, and trace of NH4Cl was immersed into a Pb-acetate soln. to diffuse the soln. into the compact .apprx.10 mm deep, and heated to .gtoreq.800.degree. to activate the compact and to prep. a cathode.

air cell

L7 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC H01M004-88
AB A carbonizable material, sugar or waste molasses, is impregnated into a sintered Ni plate and heated to prep. a C-contg. Ni electrode. Thus, a sintered Ni electrode-collector was impregnated in a soln. contg. sugar and NH4Cl, dried, and heated for 0.5 h at 700.degree. in N contg. 5% O to prep. an electrode base, which was treated with a Pd chloride-HCl soln. and waterproofed with a hexafluoropropylene-tetrafluoroethylene copolymer powd. to prep. a gas-diffusion electrode for fuel cells.

FC

L7 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2002 ACS
IC H01M004-96
AB The title cathodes are prepd. by sintering a mixt. of C powder, activating agents, and a binder. The nonreacting electrode area is covered with a nonpermeable and heat-resistant material during the sintering. The sintered cathode is waterproofed. Thus, H3PO4, HNO3, and NH4Cl were used as the activating agents; tar, pitch, or molasses were used as the binder; and a soln. contg. Vaseline, paraffin, or styrene was used for waterproofing.